



# **Is Classrooms for the Future Changing Teaching and Learning in Pennsylvania Schools?** **An Executive Summary on CFF's First Few Months**

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# CFF Year One Evaluation Executive Summary

The purpose of the Classrooms for the Future (CFF) initiative is to transform Pennsylvania's high schools, making them more engaging and more responsive to the economic challenges presented by globalization. This high school reform initiative is at the same time an effort to enhance teaching and learning, to promote access to technology and the effective use of that technology, and to increase our ability to compete in an increasingly global marketplace. As such, this reform initiative targets both increasing the number of powerful computers available for student use (a laptop computer on every student desk in every public high school classroom in which the four core subjects are taught), increased access to technology for teachers (a multimedia teaching station in each classroom) and the professional development of teachers providing the preparation and ongoing assistance required to support change and to use these technologies well.

This evaluation used repeated classrooms observations, teacher and student surveys, and interviews with CFF coaches, principals, and building contacts to assess the progress being made in the first few months of the program. The results in this report must be considered preliminary, since due to contract negotiations and other issues, the technologies arrived late in the school year, limiting their use by teachers and students to the last few months of the academic year. The primary purpose of this initial report is to look for signs of changes in progress, in teaching activity, in student activity, in teacher attitudes, and in student attitudes. Our Year Two evaluation report will provide better information based on several months of activity.

Some of the statistically significant results that were visible in the first months of the CFF Initiative include:

- **Classroom organization shifted in ways conducive to collaboration.**
  - There were significant changes in the physical organization of many classrooms, with approximately 15 % fewer rooms arranged as desks in rows and 10% more classrooms arranged in clusters of three to five desks.
- **Teacher and student activity changed.**
  - Observers and students reported that teachers spent significantly less time in whole class lecture and more time working with small groups of students and interacting with individual students.
  - There were significant increases in the use of project- or problem-based learning, authentic learning, multi-modal teaching, peer teaching, and in both informal and formal collaborative learning.
  - There was significant change in the nature of assignments given to students, shifting toward "real world products."
  - There was a significant shift away from didactic toward constructivist teaching styles, in which students build understanding through activity.
  - Teachers reported that students spent significantly more time working in groups, and that they (teachers) placed more emphasis on oral reports and presentations since the introduction of CFF.
- **Focus on higher order thinking and 21<sup>st</sup> century skills increased.**
  - Teachers increasingly engaged students in activities requiring higher order thinking.
  - Significant increases were observed in attention to ten of twelve categories of 21<sup>st</sup> century skills, including Scientific Literacy, Cultural Literacy or Global Awareness, E-communication skills, Social or Personal Responsibility, Creativity, Higher-Order Thinking, Use of Real World Tools, The Ability to

Produce High-Quality Products, and Planning, Prioritizing, and Managing Work.

- **Teaching activity shifted in ways associated with student achievement.**
  - Although this evaluation did not, because of the very short duration of the CFF program and the comprehensive nature of end-of-year tests, look directly at changes in student achievement in Year One, we did use classroom observations to evaluate teaching based on five domains of teacher activity associated with increases in student achievement. Statistically significant increases were found for two of the five domains, "Focus/Capacity" and for "Provisions for Evaluation."
- **Student engagement improved.**
  - The pre/post analysis of how students spent their time showed that students spent significantly less time "off task" (doing things other than what the teacher had intended).
  - There was a significant increase in the *level* of engagement, with students more deeply engaged during the post-CFF observations.
- **Teacher's attitudes changed, reflecting increased value for technologies in the learning process, increases in effort and hours, and increased levels of preparation to teach their subjects well.**
  - Despite the fact that approximately 75% of teachers perceived technologies as either valuable (46%) or very valuable (28%) at the time of the initial survey, a significant shift occurred during Y1, with more teachers rating technologies as "very valuable."
  - Approximately 70% of teachers reported feeling better prepared to teach this year than last year. However, on another item about 20% expressed the belief that they do not yet have the technology skills needed to teach their subjects using the best methods available, indicating increased opportunity for professional development.
  - Ninety percent of teachers reported that they are working harder than they were in past years, and approximately the same number (86%) reported that they are also working longer.
  - Approximately 72% of the teachers reported that the CFF coach had been either valuable (39%) or very valuable (33%), and the three services the coaches provide that were considered by teachers to be most important were:
    - Teaching them to operate computers, networks, or software programs
    - Suggesting ways to incorporate technology to teach the content in their classes, and
    - Solving technical problems.

**Conclusion: It is still very early in the CFF initiative, but there are initial signs that all involved understand that CFF is about new approaches to teaching and learning (not technology), and there is evidence that positive changes are underway.**